

described in the specification as processing IP addresses, and it well known that such addresses are commonly associated with headers, rather than payloads, of IP packets. See the specification at, for example, page 4, line 14 to page 5, line 28. Moreover, FIG. 3 and the corresponding text at page 7, line 23 to page 8, line 7 show a more detailed example of one possible implementation of the gateway 110. Applicants therefore submit that the requirements of 37 C.F.R. §1.83(a) are satisfied by the present drawings. The objection to the drawings is believed to be improper and should be withdrawn.

Independent claims 1, 11 and 21 stand rejected under 35 U.S.C. §102(e) as being anticipated by U.S. Patent No. 6,157,950 (hereinafter “Krishnan”). Applicants respectfully traverse the §102(e) rejection.

Applicants initially note that MPEP §2131 specifies that a given claim is anticipated “only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference,” citing Verdegaal Bros. v. Union Oil Co. of California, 814 F.2d 628, 631, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987). Moreover, MPEP §2131 indicates that the cited reference must show the “identical invention . . . in as complete detail as is contained in the . . . claim,” citing Richardson v. Suzuki Motor Co., 868 F.2d 1226, 1236, 9 USPQ2d 1913, 1920 (Fed. Cir. 1989). Applicants submit that the Examiner has failed to establish anticipation of at least independent claims 1, 11 and 21 by the Krishnan reference.

Independent claim 1 is directed to an apparatus for use in interfacing a local network to one or more external network elements. The apparatus includes a gateway coupled between the local network and the one or more external network elements. The gateway is operative to perform the following functions:

(i) to determine remotely-assigned address information for a given device attached to the local network; and

(ii) to establish, based at least in part on the remotely-assigned address information, a substitution address for use by at least one other device attached to the local network when communicating with the given device.

Thus, in accordance with the invention, a local area network (LAN) or other type of local network is interfaced with one or more external network elements via a gateway that advantageously

implements an address substitution mechanism for ensuring that communications between devices attached to the local network are not routed through an external network as a result of, e.g., disparity in their remotely-assigned Internet protocol (IP) addresses.

The gateway in an illustrative embodiment, described in the specification at page 4, lines 14-23, is configured to intercept communications from devices on the local network in order to determine remotely-assigned IP address information for those devices. After such information is determined for a given device, the gateway creates a set of address substitution information that includes sub-network compatible addresses for use by other devices on the local network when communicating with the given device. The substitution addresses are then used in subsequent communications between the devices on the local network, thereby ensuring that communications between these devices are not routed through the external network.

Applicants note that the foregoing reference to an illustrative embodiment is intended merely to present a concrete example of one possible arrangement falling within the limitations of claim 1.

The Krishnan reference does not anticipate the above-described invention, as set forth in claim 1, and clearly does not provide the associated advantages of preventing communications between devices on the same local network from being routed through an external network as a result of disparity in their remotely-assigned IP addresses. Instead, the Krishnan reference is directed to an arrangement in which devices on the same local network share a single IP address, by allowing one of the devices, denoted as a gateway, to substitute its IP address for the IP addresses of the other devices on the same local network, when communicating with the external network. See Krishnan at column 3, lines 17-33, as cited and relied upon by the Examiner. Since Krishnan teaches that the gateway simply substitutes its own IP address for that of another device on the same local network, Krishnan does not solve the above-noted problem of communications between devices on the same local network being routed through an external network as a result of disparity in their remotely-assigned IP addresses. If certain devices on the local network in Krishnan have an undesirable disparity in their remotely-assigned IP addresses, the Krishnan gateway will route communications between those devices through the external network, as in a conventional system of the type described by Applicants at page 1, line 12 to page 2, line 4 of the specification. The present

invention as set forth in claim 1, unlike the Krishnan arrangements, advantageously addresses and solves this significant problem of the prior art.

The Examiner argues in the Office Action, at page 7, first and second full paragraphs, that the gateway in Krishnan performs operations (i) and (ii) above. Applicants respectfully disagree. As indicated above, Krishnan teaches a gateway which simply substitutes its own IP address for the IP addresses of other devices on the same local network when such devices are communicating with an external network. Such an arrangement does not read on the claimed address substitution, which as indicated previously involves utilizing remotely-assigned address information, as determined for a given device attached to a local network, to establish a substitution address for use by at least one other device attached to the local network when communicating with the given device. Not only is the substitution address in Krishnan not established “based at least in part on the remotely-assigned address information,” it is not an address “for use by at least one other device attached to the local network when communicating with the given device,” as is required by claim 1. Instead, the substitution address in Krishnan is always the gateway IP address, such that the claimed operations involving determination of remotely-assigned address information and establishment of a substitution address are not needed.

The Examiner in formulating the §102(e) rejection further relies on the disclosure in column 7, line 59, to column 8, line 9 of Krishnan. The cited portion of Krishnan provides as follows, with emphasis supplied:

Computer 43 first assembles packet 40, which includes the IP address and port number of destination computer 46, e.g., 179.34.71.46:80, as well as its own source IP address and port number, e.g. 1.2.3.43:512. Because there is no direct connection between computer 43 and the Internet, packet 40 is routed on LAN 44 to gateway computer 41.

Routing software on gateway computer 41 records the source IP address and port number, e.g., 1.2.3.43:512, and substitutes its own source IP address and a selected port number, e.g., 211.99.28.10:1037, into packet 40 to create packet 40'. The correspondence between the source IP address and source port number of computer 43, as well as a selected destination port number on gateway computer 41, are recorded in a table or database located on, or

accessible to, gateway computer 41. Gateway computer 41 then forwards modified data packet 40' toward the original destination, possibly via additional gateways and routers, not shown in FIG. 4, until packet 40' reaches computer 46.

This is not determination in the gateway of a substitution address for use by at least one other device attached to the local network when communicating with the given device, as set forth in claim 1. Instead, the cited portions of Krishnan simply teach to replace a local network device source IP address with the gateway source IP address. The Krishnan arrangements will therefore suffer from precisely the same problems noted above and more particularly identified by Applicants at page 1, line 25 to page 2, line 4 of the specification.

In other words, due to IP addressing disparity associated with remotely-assigned IP addresses on the local network, a communication from a given device on the local network in Krishnan that is directed to another device on the local network may have to be routed from the given device, out through the gateway to the external network, and back in from the external network through the gateway to the other device on the local network. The alteration of source IP addresses as described in Krishnan does not solve this problem, while the present invention as set forth in claim 1 does solve this problem.

Moreover, it should be noted with regard to claim 1 that the establishment of the substitution address is based at least in part on the determined remotely-assigned address information. Since the gateway in Krishnan simply replaces all source IP addresses of the local network devices with the gateway source IP address, there is no substitution address in Krishnan that is established based at least in part on the determined remotely-assigned address information as claimed.

The Krishnan reference clearly does not teach “each and every element” as set forth in claim 1, in “as complete detail as is contained in the . . . claim,” as required by the above-cited portion of MPEP §2131. Furthermore, the arrangements described in Krishnan certainly do not address or solve the particular problems of the prior art addressed and solved by the present invention, and in fact the Krishnan arrangements suffer from those very same problems. It is therefore believed that claim 1 cannot reasonably be viewed as being anticipated by Krishnan.

Independent claims 11 and 21 are believed allowable for reasons similar to those identified above with regard to independent claim 1.

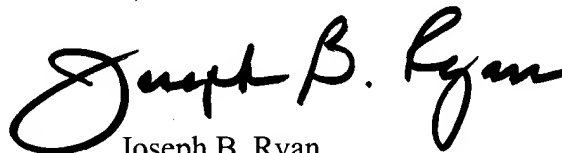
Dependent claims 2-10 and 12-20 are believed allowable for at least the reasons identified above with regard to their respective independent claims, and are believed to define additional separately-patentable subject matter relative to Krishnan and the other art of record.

In addition, U.S. Patent No. 6,414,952 (hereinafter "Foley") fails to remedy the above-described deficiencies of the Krishnan reference as applied to claims 1, 11 and 21. Therefore, the Foley and Krishnan references, even if assumed for purposes of argument to be combinable in the manner urged by the Examiner, fail to teach or suggest all of the limitations of claims 4 and 14 as alleged by the Examiner.

In view of the above, Applicants believe that claims 1-21 as amended are in condition for allowance, and respectfully request withdrawal of the §102(e) and §103(a) rejections.

As indicated previously, a Notice of Appeal is submitted concurrently herewith.

Respectfully submitted,



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Joseph B. Ryan
Attorney for Applicant(s)
Reg. No. 37,922
Ryan, Mason & Lewis, LLP
90 Forest Avenue
Locust Valley, NY 11560
(516) 759-7517

Enclosure(s): Notice of Appeal